

Abstract

The invention pertains to a human N-type calcium channel isoform, $\alpha_{1B+SFVG}$, which is involved in central nervous system signaling, and nucleic acids relating thereto. The present invention also includes fragments and biologically functional variants of the human $\alpha_{1B+SFVG}$ channel. Also included are human N-type calcium channel $\alpha_{1B+SFVG}$ subunit inhibitors which inhibit human N-type calcium channel $\alpha_{1B+SFVG}$ subunit activity by inhibiting the expression or function of human N-type calcium channel $\alpha_{1B+SFVG}$ subunit. The invention further relates to methods of using such nucleic acids, polypeptides, and inhibitors in the treatment and/or diagnosis of disease, such as in methods for treating stroke, pain, e.g., neuropathic pain, and traumatic brain injury.